

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Mark A. Hochwalt, et al. : Examiner: Frank I. Choi
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**APPEAL BRIEF
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES
UNDER 37 C.F.R. § 41.37**

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants submit the following Appeal Brief to the Board of Patent Appeals and Interferences under 35 C.F.R. § 41.37. The Notice of Appeal was filed October 12, 2007.

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I. **Real Party In Interest**

The real party in interest for the above-referenced application is Solutia Inc., 575 Maryville Centre Drive, St. Louis, Missouri 63141, the Assignee of record of the entire right, title and interest in the invention and the patent application.

II. Related Appeals and Interferences

There are no other appeals or interferences known to Applicants, i.e. Appellants, Applicants' Legal Representative, or Assignee, which will directly affect or be directly affected by, or have a bearing on, the Board of Patent Appeals and Interferences' decision in the pending appeal.

III. Status of the Claims

Under an Advisory Action, mailed October 26, 2007, Claims 50-55, 57, 58, 60-59, 71, 72, 74-83, 85, 86, 88-98, 100, 101 and 103-107 of the present application are pending and stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over JP 05-084283 in view of Furio (H1579) and Gioffre et al. (US. Patent No. 4,795,482.)

Claims 1-49, 56, 59, 70, 73, 84, 87, 99 and 102 have been cancelled previously.

IV. Status of Amendments

Amendment A was filed June 10, 2005 responsive to a First Non-Final Office Action, mailed March 29, 2005. *Preliminary Amendment (B)* was filed February 28, 2006, along with a *Request for Continued Examination* (RCE) responsive to a First Final Office Action, mailed August 30, 2005. *Amendment and Response (C)* was filed July 25, 2006 responsive to a Second Non-Final Office Action, mailed March 28, 2006. *Amendment (D)* was filed January 11, 2006 responsive to a Third Non-Final Office Action, mailed October 17, 2006. A *Notice of Appeal* and *Amendment After Final and Response (E)* were both filed October 12, 2007, in response to a Second Final Office Action, mailed June 14, 2007.

The subjects of appeal are Claims 50-55, 57, 58, 60-69, 71, 72, 74-83, 85, 86, 88-98, 100, 101 and 103-107 which are currently under rejection under 35 U.S.C. Section 103(a).

V. Summary of the Claimed Subject Matter

The preferred embodiment of the present invention is a composition disclosed in Claim 50, which reads:

“A composition for reducing odor, the composition comprising: about 30 % to about 99% of an acid selected from the group consisting of aspartic acid, fumaric acid and mixtures thereof; at least one synthetic zeolite having at least about 90% SiO₂ tetrahedral oxide units, a capacity for adsorbed water of not greater than about 10 weight percent when measured at 25°C and water vapor pressure at 4.6 torr, and pore apertures at least about 5.5 Å in diameter, wherein the original water of hydration has been substantially removed; and at least one metal substance selected from the group consisting of a metal, metal salt, metal oxide, metal oxide salt and mixtures thereof.”

This is supported in Applicants' specification at page 4, paragraph [0019]. The use of aspartic and fumaric acid is disclosed in Applicants' specification at page 5, paragraph [0021].

Suitable metal oxides are disclosed in Claim 51 to include zinc oxide, copper oxide, iron oxide, manganese oxide, tin oxide, silver oxide and mixtures thereof. This is disclosed in Applicants' specification at page 6, paragraph [0022]. Suitable metals are disclosed in Claim 52 to include zinc, copper, iron, manganese, tin, silver and mixtures thereof. This is detailed in Applicants' specification at page 6 paragraph [0023]. Suitable metal salts are disclosed in claim 53 to include a zinc salt, a copper salt, an iron

salt, a manganese salt, a tin salt, a silver salt and mixtures thereof. This is detailed in Applicants' specification at page 6 paragraph [0024].

Claim 65 recites an odor control article utilizing the composition of Claim 50, discussed above. This is disclosed in Applicants' specification at page 11, paragraph [0047].

Claim 79 recites a method for reducing odor, the method comprising contacting the odor with an effective amount of an odor reducing composition disclosed in Claim 50, discussed above. This is supported in Applicants' specification at page 12, paragraphs [0048] to [0049].

Claim 93 recites a method of removing odor from an odor emitting environment comprising contacting an effective amount of an odor reducing composition comprising an acid selected from aspartic acid, fumaric acid and mixtures thereof, in combination with the zeolite and metal disclosed in Claim 50, discussed above. This is supported in Applicants' specification at paragraphs [0048] to [0049].

VI. Ground Of Rejection To Be Reviewed On Appeal

The ground of rejection presented on appeal for review is whether Claims 50-55, 57, 58, 60-59, 71, 72, 74-83, 85, 86, 88-98, 100, 101 and 103-107 of the present application are unpatentable under 35 U.S.C. 103(a) as being obvious over JP 05-084283 in view of Furio (H1579) and Gioffre et al. (U.S. Patent No. 4,795,482.)

VII. Argument

The issue on appeal is whether Claims 50-55, 57, 58, 60-59, 71, 72, 74-83, 85, 86, 88-98, 100, 101 and 103-107 of the present application are unpatentable under 35 U.S.C. 103(a) as being obvious over JP 05-084283 in view of Furio (H1579) and Gioffre et al. (U.S. Patent No. 4,795,482.)

For purposes of this issue presented on appeal, it is respectfully believed that Claims 50-55, 57, 58, 60-59, 71, 72, 74-83, 85, 86, 88-98, 100, 101 and 103-107 should not stand or fall together, but should be broken down into two (2) separate groups.

Claims 50, 53-55, 57, 58, 60-65, 68, 69, 71, 72, 74-79, 82, 83, 85, 86, 88, 94, 97, 98, 100, 101 and 103-107 should form a first group (**Group I**) and merit patentability in their own right.

Claims 51, 52, 66, 67, 80, 81, 95 and 96 should form a second group (**Group II**) as they focus on specific metals and metal oxides and merit patentability in their own right.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. Section 103(a) that is the basis of the Examiner's rejections:

“A person shall be entitled to a patent unless,
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

A. Group I Claims

Applicants’ composition is an odor control substance comprising at least one synthetic zeolite, admixed with at least one acid and at least one substance selected from a metal oxide, metal, or salt of a metal or metal oxide. A wide range of odors, including ammonia and sulfurous odors, may be controlled by contacting an effective amount of the above composition with the article, substance or environment that emits the undesired odor. The composition may also be incorporated into other substances for odor reduction or control to form odor-controlled articles.

The synthetic zeolites utilized by the Applicant are commercially available and are disclosed in U.S. Patent No. 4,795,482 to Gioffre et al. Prior art attempts to combine zeolite adsorbents with metal compounds were unsatisfactory, as outlined in Applicants’ specification at paragraph [0019]:

“This is contrary to prior art odor reducing compositions that describe zeolites coated with metal compounds or serve as a support for metal compounds. Zeolites that are coated with metal compounds, or serve as an inert support for metal compounds, are not suitable for use in the present invention because the metallic coating of zeolites result in at least partial inactivation of the adsorption properties of the zeolite. Accordingly, the zeolite

becomes inert, and does not serve an active role in the adsorption of odors as in the present invention.”

Contrary to prior art methods, Applicants’ composition does not coat the zeolite with the metal compound, but rather admixes the zeolite, metal compound, and a suitable acid. The Applicants’ have discovered that by admixing these components together, in the formulations and amounts disclosed and claimed in Applicants’ application, a composition with unexpectedly improved odor control properties is created.

Summary of the References cited by the Examiner:

JP 05-084283 (hereinafter referred to as “the JP Patent”) discloses and claims novel complex metal salt compositions comprising the copper (II) salt of an organic dicarboxylic acid of the formula HOOC-A-COOH, wherein A is the hydrocarbon residue of the bivalence of carbon numbers 2-6, for use as a deodorant. This is the only metal, and the only type of salt disclosed. The JP Patent clearly discloses the effectiveness of, and need to convert to, a Copper (II) salt of a dicarboxylic acid:

The invention is a formula: HOOC-A-COOH [I]

The deodorant containing the copper(II) salt of the organic dicarboxylic acid shown in [A means the hydrocarbon residue of the bivalence of carbon numbers 2-6 among a formula] is offered. (See paragraph [0009]).

This improved dicarboxylic acid salt is formed by chemical reaction, as disclosed in the specification:

The copper compound from which said organic dicarboxylic acid copper salt is obtained by the chemical

reaction may be used as a start raw material in preparation of the deodorant of this invention within the system which may prepare the aforementioned organic dicarboxylic acid copper salt beforehand by the well-known approach, and prepares a deodorant. (See paragraph [0034]) and

..fumaric acids, 1.7 g of copper hydroxide, and water 5 mL were kneaded, it extended on the Petri dish, and reaction and desiccation were performed at 115 degrees C for 1 hour. The obtained tabular kneading object was ground and 5.5 g of 30-60-mesh screening articles was obtained.

(See paragraph [0048]).

U.S. Patent No. 4,795,482 to Gioffre, et al., (hereinafter referred to as “Gioffre”) discloses synthetic zeolites, now commercially available, which are of the type used in Applicants’ claimed composition. In fact, Applicants’ have incorporated this reference into their specification at paragraph [0026]. The zeolites are described in the Gioffre Abstract of the Invention and are considered “high ratio” $\text{SiO}_2/\text{AlO}_3$ zeolites, as they are limited to at least 90 percent SiO_2 .

Furio (H1579) discloses “intermediate ratio” zeolites, which are purported to overcome the limitations of the “high ratio” zeolites disclosed by Gioffre and others. As Applicants’ claims are limited to the “high ratio” type of zeolite disclosed in Gioffre, it is submitted that Furio is irrelevant to the issue on appeal.

The purpose and function of the JP Patent is to form the novel Cu (II)/dicarboxylic acid salt. However, Applicants do not form the JP Patent novel Cu (II) salt with an acid. Further, contrary to statements by the Examiner, Applicants cannot form the complex Cu (II) salt required by the JP Patent. As is clearly disclosed in the JP Patent, the copper metal is chemically bonded to the dicarboxylic acid. In order for the chemical reaction to occur, copper hydroxide, water and the acid are kneaded together to form a moldable material that is heated, (see the JP Patent paragraph [0048], excerpted above.) The Applicants' composition is an admix of a simple, or conventionally used metal compound with fumaric acid, aspartic acid, or a mixture thereof and a suitable zeolite. No chemical bonding of the metal to the acid is disclosed or suggested.

The Examiner's position is that it would be obvious to take the metal from the complex metal/acid salt taught by the JP Patent, remove the chemical bond and admix the modified metal with the acid, and further in combination with the zeolite. The JP Patent function and purpose will be totally and utterly destroyed if the novel complex Cu (II) salt, or an obvious variation thereof is not formed. Therefore, it is respectfully submitted that the Examiner's modification of the JP Patent to Applicants' inventive composition is improper.

It is respectfully believed that it goes without saying that if a prior reference is cited that requires some modification in order to properly combine with another reference and such a modification destroys the purpose or function of the invention disclosed in the reference, one of ordinary skill in the art would not find reason to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). In *Gordon*, the claimed device was a blood filter assembly for use during medical

procedures wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid strainer for removing dirt and water from gasoline and other light oils wherein the inlet and outlet were at the top of the device, and wherein a pet-cock (stopcock) was located at the bottom of the device for periodically removing the collected dirt and water. The prior art reference further taught that the separation is assisted by gravity. The Board of Patent Appeals and Interferences concluded the claims were *prima facie* obvious, reasoning that it would have been obvious to turn the reference device upside down. The Court of Appeals for the Federal Circuit reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose, because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated would flow out of the outlet instead of the purified gasoline, and the screen would become clogged.

The Supreme Court held in *U.S. v. Adams*, 383 U.S. 39, 148 U.S.P.Q. 479 (1966), that one important indicium of no obviousness is "teaching away" from the claimed invention by the prior art or by experts in the art at (and/or after) the time the invention was made. It is improper to combine references wherein the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 218 U.S.P.Q. 769 (Fed. Cir. 1983).

In this case, the JP Patent mandates the formation of the novel Cu(II) salt, by chemically bonding the copper to the bicarboxylic acid, and teaches against the use of other metal compounds in the prior art description at paragraph [0003].

The Manual for Patent Examining Procedure (M.P.E.P.) Section 2141.02 specifically dictates that a: "...prior art reference must be considered in its entirety,

i.e., as a whole, including portions that would lead away from the claimed invention.

W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)." In W. L. Gore & Associates, Inc., the claims were directed to a process of producing a porous article by expanding shaped, unsintered, highly crystalline poly(tetrafluoroethylene) (PTFE) by stretching said PTFE at a 10% per second rate to more than five times the original length. The prior art teachings with regard to unsintered PTFE indicated that the material does not respond to conventional plastics processing, and the material should be stretched slowly. A reference teaching rapid stretching of conventional plastic polypropylene with reduced crystallinity, combined with a reference teaching stretching unsintered PTFE, would not suggest rapid stretching of highly crystalline PTFE, in light of the disclosures in the art that teach away from the invention, i.e., that the conventional polypropylene should have reduced crystallinity before stretching and that PTFE should be stretched slowly.

In this same manner, a person with ordinary skill in the art will not take the JP Patent and be motivated to remove the chemical bond between the metal and dicarboxylic acid in favor of admixing the components, totally ignoring the JP Patent teaching of making the novel salt.

It is respectfully believed that it is improper for the Examiner to focus on the fact that the JP Patent discloses the use of a metal, and completely ignore that the metal is part of a novel metal/dicarboxylic acid salt. This is supported by case law, e.g., *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), as well as the Manual for Patent Examining Procedure (M.P.E.P.) Section 2143.01. In *Fine*, the claims were directed to a system for detecting and measuring minute quantities on nitrogen compounds comprising

a gas chromatograph, a converter which converts nitrogen compounds into nitric oxide by combustion, and a nitric oxide detector. The primary reference disclosed a system for monitoring sulfur compounds comprising a chromatograph, combustion means, and a detector, and the secondary reference taught nitric oxide detectors. The Examiner and the Board of Patent Appeals and Interferences asserted that it would have been within the skill of the art to substitute one type of detector for another in the system of the primary reference; however, the Court of Appeals for the Federal Circuit found there was no support or explanation of this conclusion and reversed.

This present situation is much stronger, as there no support in the JP Patent for taking the metal/acid salt, removing the chemical bond and further admixing the free metal and acid with Applicants' zeolite. More simply, there can be no teaching to ignore the novel Cu (II) salt, as well as the disclosed method of making the novel Cu (II) salt, both of which are the invention of the JP Patent.

Under *In re Sang Su Lee*, 277 F.3d 1338, (Fed. Cir. 2002), the Court of Appeals for the Federal Circuit found that the Board of Patent Appeals and Interferences must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. The Court of Appeals for the Federal Circuit rejected the Board of Patent Appeals and Interferences' conclusory findings based on "common knowledge and common sense." The Court of Appeals for the Federal Circuit stated:

"For judicial review to be meaningfully achieved within these strictures, the agency tribunal must present a full and reasoned explanation of its decision. The agency tribunal must set forth its findings and the grounds

thereof, as supported by the agency record, and explain its application of the law to the found facts."

The Court of Appeals for the Federal Circuit has often explained that, "(t)he Administrative Procedure Act, which governs the proceedings of administrative agencies and related judicial review, establishes a scheme of 'reasoned decision making.' Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational." As always, a showing of a suggestion, teaching or motivation to combine the prior art references is an essential component of an obviousness holding. *C. R. Bard, Inc. v. M3 Systems, Inc.*, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998).

This showing by the Examiner in the present case has not been made regarding the JP Patent. To the contrary, there is a convincing and persuasive showing by Applicants that demonstrate why removing the metal from the novel Cu (II) salt and deletion of the method of making the Cu (II) salt should not be made in the JP Patent. Further, the Examiner has not shown any suggestion, teaching or motivation in Gioffre to support admixing the Gioffre zeolite with the specific acids and metal compounds disclosed and claimed by Applicants.

Additionally, if the proposed combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959). In *Ratti*, the claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The reference relied upon in a rejection based on a

combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. The patentee taught that the device required rigidity for operation, whereas the claimed invention required resiliency. The Court of Customs and Patent Appeals reversed the rejection holding that the suggested combination of a first reference with a second reference would require a substantial reconstruction and redesign of the elements shown in the second reference as well as the basic principles under which the construction of the second reference was designed to operate." See Id. 270 F.2d at 813, 123 U.S.P.Q. at 352.

The intent, function and purpose of the JP Patent in providing a novel Cu (II) salt is totally obviated by modifying the JP Patent to teach Applicants' composition.

When patentability turns on the question of obviousness, the search for and analysis of the prior art must include evidence relevant to the finding of whether there is a teaching, motivation or suggestion to select and combine the references relied on as evidence of obviousness. See, *In re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002) citing, *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1335, 60 U.S.P.Q.2d 1001, 1008 (Fed. Cir. 2001). There must be a reason to combine the references. The reason to combine references must be based on objective evidence of record. Prior to *KSR International Co. v. Teleflex, Inc.*, 550 U.S. ___, 127 S. Ct. 1727 (2007), the Federal Circuit required that there be a showing of a suggestion, teaching or motivation to combine the prior art references as an essential component of an obviousness holding. *C. R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998). Although the Supreme Court rejected this rigid requirement the test is still alive

and can be used to provide helpful insight. The Patent Office has advised its examiners that this test will still be used in obviousness evaluations and the patent examiner still needs to look for specific reasons why the prior art would be combined into a new patent before rejecting applications for obviousness.

In this case, the JP Patent requires the formation, as disclosed, of the novel Cu(II) salt. There is no motivation whatsoever to utilize a metal compound that has not been chemically bonded to a dicarboxylic acid, much less the slightest hint or suggestion to do so. There is no motivation to admix the Gioffre zeolite with a metal compound and an acid. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992).

Most importantly, when applying 35 U.S.C. Section 103(a), the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) **The references must be considered as a whole and must suggest the desirability, and thus, the obviousness of making the combination;** (C) **The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention;** and (D) Reasonable expectation of success is the standard with which obviousness is determined. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 U.S.P.Q. 182, 187 n.5 (Fed. Cir. 1986).

Particular findings must be made as to the reason why a skilled artisan with no knowledge of the claimed invention would have selected the components for combination in the manner claimed. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000). The Patent Office must identify specifically the principal known to one of

ordinary skill, that suggests the claimed combination. *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453, 1459 (Fed. Cir. 1998). The Patent Office must explain the reasons why one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious. Further, the Patent Office can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill would lead that individual to combine the relevant teachings of the references. See, *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q. 1780, 1783 (Fed. Cir. 1992). The factual question of motivation is material to patentability and cannot be resolved on subjective belief and unknown authority. It is improper in determining whether a person of ordinary skill would have been led to this combination of references simply to “use that which the inventor taught against the teacher.” *W. L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 312-13 ((Fed. Cir. 1983). The Patent Office must examine the relevant data and articulate a satisfactory explanation for its action or position including a rational connection between the facts found and the choice made. *Motor Vehicles Manufacturers Association v. State Farm Mutual Automobile Ins. Co.*, 463 U.S. 29, 43 (Sup. Ct. 1983).

Where a trade off between features is required to produce an invention from a combination of references, motivation to combine requires the tradeoff be desirable not just feasible. See *Winner International Royalty Corp. v. Wang*, 202 F.3d 1340, 53 U.S.P.Q.2d 1580 (Fed. Cir. 2000).

It is improper to apply an obviousness to try standard or indulge in hindsight evaluation or reconstruction. See *Ecolochem, Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 U.S.P.Q.2d 1065 (Fed. Cir. 2000).

An appropriate analysis in the determination of obviousness may not indulge in the forbidden hindsight evaluation. “Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *In re Dembicza*k, 175 F.3d 994, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). It has also been held that teachings of references can be combined only if there is some suggestion or incentive to do so. See *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

At a minimum, it is respectfully submitted that the Examiner’s rejection uses impermissible hindsight and does not consider the JP Patent as a whole. Only by using the Applicant’s specification as motivation can the Examiner destroy the novel Cu (II) complex to provide the metal and acid needed to admix with Applicants’ zeolite. When the JP Patent is considered as a whole, it provides no disclosure, teaching or suggestion that allows a person of ordinary skill in the art to admix these components, without using Applicants’ specification as a guide.

B. Group II Claims

Claims 51, 52, 66, 67, 80, 81, 95 and 96 form a second group (**Group II**) that focus on the specific metal compounds. As Claims 51 and 52 depend from and contain all of the limitations of Claim 50, Claims 51 and 52 distinguish from the JP Patent in the same manner as Group I, argued above. If an independent claim is nonobvious under 35

U.S.C. Section 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Moreover, even if the JP Patent can be read broadly enough to disclose the use of any metal salt, ignoring the JP Patent's teachings and purpose, as fully discussed above, Claims 51, 52, 66, 67, 80, 81, 95 and 96 are limited to the use of metals and metal oxides, Claims 51, 52, 66, 67, 80, 81, 95 and 96 have patentable merit in and of themselves.

VIII. Conclusion

In view of the above arguments, Appellants respectfully submit that the 35 U.S.C. Section 103(a) rejection of 50-55, 57-69, 71-83, 85-98 and 100-107 under 35 U.S.C. 103(a) is overcome requests accordingly that the rejections be set aside.

Date: December 12, 2007

Respectfully submitted,
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IX. Claims Appendix

50. A composition for reducing odor, the composition comprising:
about 30 % to about 99% of an acid selected from the group consisting of aspartic acid, fumaric acid and mixtures thereof;
at least one synthetic zeolite having at least about 90% SiO₂ tetrahedral oxide units, a capacity for adsorbed water of not greater than about 10 weight percent when measured at 25°C and water vapor pressure at 4.6 torr, and pore apertures at least about 5.5 Å in diameter, wherein the original water of hydration has been substantially removed; and
at least one metal substance selected from the group consisting of a metal, metal salt, metal oxide, metal oxide salt and mixtures thereof.

51. The composition of Claim 50 wherein the metal oxide is selected from the group consisting of zinc oxide, copper oxide, iron oxide, manganese oxide, tin oxide, silver oxide and mixtures thereof.

52. The composition of Claim 50 wherein the metal is selected from the group consisting of zinc, copper, iron, manganese, tin, silver and mixtures thereof.

53. The composition of Claim 50 wherein the metal salt is selected from the group consisting of a zinc salt, a copper salt, an iron salt, a manganese salt, a tin salt, a silver salt and mixtures thereof.

54. The composition of claim 50 further comprising an article or substance that emits an odor during use in the absence of said composition for reducing odor.

55. The composition of claim 54 wherein said article or substance is at least one item selected from the group consisting of personal care articles, foot powders, laundry preparations, pet litters, cleaning products and deodorizers.

57. The composition of claim 50 comprising:

about 88% to about 89.5% of the acid;

about 9% to about 11% synthetic zeolite; and

about 0.5% to about 2% of the metal substance.

58. The composition of claim 50 comprising:

about 90% to about 94% of the acid;

about 5% to about 7% of the synthetic zeolite; and

about 1 % to about 3% of the at least one metal substance.

60. The composition of claim 59 wherein the acid and the metal substance combined comprise about 50% to about 98% of the composition and the zeolite comprises about 2% to about 5% of the composition.

61. The composition of claim 50 further comprising a diluent.

62. The composition of claim 61 wherein the diluent is sodium bicarbonate or a natural zeolite.

63. The composition of claim 62 wherein the diluent is clinoptilolite.

64. The composition of claim 63 comprising:

about 30% to about 38% acid;

about 1% to about 2% zeolite;

about 0.5% to about 1% ZnO; and

about 60% to about 67% clinoptilolite.

65. An odor-controlled article comprising:

an article that emits odor during use in the absence of an odor controlling composition, the article being in contact with an odor reducing composition comprising;

about 30 % to about 99% of an acid selected from the group consisting of aspartic acid, fumaric acid and mixtures thereof;

at least one synthetic zeolite having at least about 90% SiO₂ tetrahedral oxide units, a capacity for adsorbed water of not greater than about 10 weight percent when measured at 25°C and water vapor pressure at 4.6 torr, and pore apertures at least about 5.5 Å in diameter, wherein the original water of hydration has been substantially removed; and

at least one metal substance selected from the group consisting of a metal, metal salt, metal oxide, metal oxide salt and mixtures thereof.

66. The odor-controlled article of claim 65 wherein the metal oxide is selected from the group consisting of zinc oxide, copper oxide, iron oxide, manganese oxide, tin oxide, silver oxide and mixtures thereof.

67. The odor-controlled article of claim 65 wherein the metal is selected from the group consisting of zinc, copper, iron, manganese, tin, silver and mixtures thereof.

68. The odor-controlled article of claim 65 wherein the metal salt is selected from the group consisting of a zinc salt, a copper salt, an iron salt, a manganese salt, a tin salt, a silver salt and mixtures thereof.

69. The odor-controlled article of claim 65 wherein the odor-controlled article is at least one item selected from the group consisting of pads, tissue, lagoons, bandages,

dressings, surgical sponges, personal care articles, cleaning products, room deodorizers, vehicle deodorizers and garbage bags.

71. The odor-controlled article of claim 65 wherein the odor reducing composition comprises:

- about 88% to about 89.5% of the acid;
- about 9% to about 11% synthetic zeolite; and
- about 0.5% to about 2% of the metal substance.

72. The odor-controlled article of claim 65 wherein the odor reducing composition comprises:

- about 90% to about 94% of the acid;
- about 5% to about 7% of the synthetic zeolite; and
- about 1 % to about 3% of the at least one metal substance.

74. The odor-controlled article of claim 73 wherein the acid and the metal substance combined comprise about 50% to about 98% of the composition and the zeolite comprises about 2% to about 5% of the composition.

75. The odor-controlled article of claim 65 wherein the odor reducing composition further comprises a diluent.

76. The odor-controlled article of claim 75 wherein the diluent is sodium bicarbonate or a natural zeolite.

77. The odor-controlled article of claim 76 wherein the diluent is clinoptilolite.

78. The odor-controlled article of claim 77 wherein the odor reducing composition comprises:

- about 30% to about 38% acid;

about 1% to about 2% zeolite;
about 0.5% to about 1% ZnO; and
about 60% to about 67% clinoptilolite.

79. A method for reducing odor, the method comprising contacting an effective amount of an odor reducing composition, the composition comprising:
about 30 % to about 99% of an acid selected from the group consisting of aspartic acid, fumaric acid and mixtures thereof;
at least one synthetic zeolite having at least about 90% SiO₂ tetrahedral oxide units, a capacity for adsorbed water of not greater than about 10 weight percent when measured at 25°C and water vapor pressure at 4.6 torr, and pore apertures at least about 5.5 Å in diameter, wherein the original water of hydration has been substantially removed; and
at least one metal substance selected from the group consisting of a metal, metal salt, metal oxide, metal oxide salt and mixtures thereof, with an article that emits an odor during use in the absence of the odor reducing composition, for a sufficient time to effectively remove said odor; and removing said emitted odor from said odor emitting article.

80. The method of claim 79 wherein the metal oxide is selected from the group consisting of zinc oxide, copper oxide, iron oxide, manganese oxide, tin oxide, silver oxide and mixtures thereof.

81. The method of claim 79 wherein the metal is selected from the group consisting of zinc, copper, iron, manganese, tin, silver and mixtures thereof.

82. The method of claim 79 wherein the metal salt is selected from the group consisting of a zinc salt, a copper salt, an iron salt, a manganese salt, a tin salt, a silver salt and mixtures thereof.

83. The method of claim 79 wherein the odor emitting article is selected from the group consisting of pads, lagoons, tanks, animal waste, bandages, dressings, surgical sponges, catamenial devices, beef trays, poultry trays, fish trays, personal care articles, foot powders, laundry preparations, pet litters, cleaning produces, deodorizers, bedding, floors, garbage cans, diaper pails, refrigerators, vehicles and carpet.

85. The method of claim 79 wherein the composition comprises:

about 88% to about 89.5% of the acid;
about 9% to about 11% synthetic zeolite; and
about 0.5% to about 2% of the metal substance.

86. The method of claim 79 wherein the composition comprises:

about 90% to about 94% of the acid;
about 5% to about 7% of the synthetic zeolite; and
about 1 % to about 3% of the at least one metal substance.

88. The method of claim 79 wherein the acid and the metal substance combined comprise about 50% to about 98% of the composition and the zeolite comprises about 2% to about 5% of the composition.

89. The method of claim 79 wherein the composition further comprises a diluent.

90. The method of claim 89 wherein the diluent is sodium bicarbonate or a natural zeolite.

91. The method of claim 90 wherein the diluent is clinoptilolite.

92. The method of claim 91 wherein the composition comprises:

about 30% to about 38% acid;
about 1% to about 2% zeolite;
about 0.5% to about 1% ZnO; and
about 60% to about 67% clinoptilolite.

93. A method for removing odor from an odor emitting environment comprising: contacting an effective amount of an odor reducing composition comprising; an acid selected from the group consisting of aspartic acid, fumaric acid and mixtures thereof;

at least one synthetic zeolite having at least about 90% SiO₂ tetrahedral oxide units, a capacity for adsorbed water of not greater than about 10 weight percent when measured at 25°C and water vapor pressure at 4.6 torr, and pore apertures at least about 5.5 Å in diameter, wherein the original water of hydration has been substantially removed; and

at least one metal substance selected from the group consisting of a metal, metal salt, metal oxide, metal oxide salt and mixtures thereof with said odor emitting environment; and allowing a sufficient time to pass for the composition to remove the odor.

94. The method of claim 93 wherein the step of contacting an effective amount of the odor reducing composition with the odor emitting environment comprises contacting the odor reducing composition, wherein the composition is contained within an article that allows for containment of the composition with the odor emitting environment.

95. The method of claim 93 wherein the metal oxide is selected from the group consisting of zinc oxide, copper oxide, iron oxide, manganese oxide, tin oxide, silver oxide and mixtures thereof.

96. The method of claim 93 wherein the metal is selected from the group consisting of zinc, copper, iron, manganese, tin, silver and mixtures thereof.

97. The method of claim 93 wherein the metal salt is selected from the group consisting of a zinc salt, a copper salt, an iron salt, a manganese salt, a tin salt, a silver salt and mixtures thereof.

98. The method of claim 93 wherein the odor emitting article is selected from the group consisting of pads, lagoons, tanks, animal waste, bandages, dressings, surgical sponges, catamenial devices, beef trays, poultry trays, fish trays, personal care articles, foot powders, laundry preparations, pet litters, cleaning produces, deodorizers, bedding, floors, garbage cans, diaper pails, refrigerators, vehicles and carpet.

100. The method of claim 93 wherein the composition comprises:

about 88% to about 89.5% of the acid;

about 9% to about 11% synthetic zeolite; and

about 0.5% to about 2% of the metal substance.

101. The method of claim 93 wherein the composition comprises:

about 90% to about 94% of the acid;

about 5% to about 7% of the synthetic zeolite; and

about 1 % to about 3% of the at least one metal substance.

103. The method of claim 93 wherein the acid and the metal substance combined comprise about 50% to about 98% of the composition and the zeolite comprises about 2% to about 5% of the composition.

104. The method of claim 93 wherein the composition further comprises a diluent.

105. The method of claim 104 wherein the diluent is sodium bicarbonate or a natural zeolite.

106. The method of claim 105 wherein the diluent is clinoptilolite.

107. The method of claim 106 wherein the composition comprises:

about 30% to about 38% acid;

about 1% to about 2% zeolite;

about 0.5% to about 1% ZnO; and

about 60% to about 67% clinoptilolite.

X. Evidence Appendix

None.

XI. Related Proceedings Appendix

None.